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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/030,286

01/07/2002

Sari Korpela

297-010742-US(PAR)

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7590

09/01/2006

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EXAMINER

JUNTIMA, NITTAYA

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/030,286

Applicant(s)

KORPELA ET AL.

Examiner

Nittaya Juntima

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-17 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 6/16/2006.
2. The objections to the specification and claims are withdrawn in view of applicant's amendment.
3. Claims 1, 6-8, 11-13, and 15 are presently rejected under 35 U.S.C. 102(e).
4. Claims 9-10, 14, 16, and 17 are presently rejected under 35 U.S.C. 103(a).
5. Claims 2-5 are presently objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 6-8, 11-13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Alamouti et al. ("Alamouti") (USPN 6,185,258 B1).

Regarding claim 1, Alamouti teaches a method for transmitting a certain sequence of symbols (s_i, s_j), said method comprising:

Constructing a frame of a certain number of consecutive symbols (s_i, s_j) (because a number of consecutive symbols shown in Table 1 must be transmitted over a period of time as the sequence of signals cannot go on indefinitely, col. 4, lines 14-24, therefore, a frame must be constructed of a certain number of consecutive symbols).

Transmitting the symbols belonging to the sequence using at least two antennas (antenna 11 and antenna 12 in Fig. 1, and col. 4, lines 14-24)

Wherein the transmission of the sequence of symbols is with a certain transmission pattern (Table 1) (col. 4, lines 14-24).

Starting the transmission of the sequence of symbols from a predefined antenna (antenna 11). See col. 3, lines 62-col. 4, lines 24, and claim 6.

Starting the transmission pattern (Table 1) from the beginning in the beginning of each frame (the transmission pattern shown in Table 1 is started from the beginning at time t in the beginning of a frame, col. 4, lines 14-24).

Regarding claims 6, 7, and 8, Alamouti teaches that each frame (because a number of consecutive symbols shown in table 1 must be transmitted over a period of time as the sequence of signals cannot go on indefinitely, col. 4, lines 14-24, therefore, a frame must be constructed of a certain number of consecutive symbols) consists of a certain number of consecutive time slots (time periods, i.e. $t, t+T, \dots$) and each time slot consists of a certain number of consecutive symbols, and said method further comprises transmitting “one/at least one/at least in one of the time slots at least one” symbol belonging to the sequence of symbol in each time slot (see table 1, col. 3, lines 62-col. 4, line 24, and claim 6).

Regarding claim 11, Alamouti teaches that the sequence of symbols is transmitted in downlink direction in a cellular network (see Fig. 1 and col. 3, lines 62-col. 4, line 24).

Claim 12 is an apparatus (transmitter 10 in Fig. 1) claim corresponding to method claim 1, and is rejected under the same reason set forth in the rejection of claim 1 with the addition of an indicator (an indicator must be included in order to indicate antenna 11 to transmit the first symbol belonging to the sequence, col. 3, lines 60-col. 4, lines 24), a starter (a starter must be included in order for the transmitter to start the transmission pattern from the beginning in the beginning of a frame, col. 3, lines 60-col. 4, lines 24).

Claims 13 and 15 are network element (transmitter 10 in Fig. 1) claims with two antennas (antenna 11 and antenna 12), corresponding to method claim 1, and is rejected under the same reason set forth in the rejection of claim 1 with the addition of a controller (a controller must be included in order to control the transmitter 10 to transmit a sequence of symbols s_i, s_j to a transmission pattern shown in Table 1, col. 3, lines 60-col. 4, lines 24), an indicator (an indicator must be included in order to indicate antenna 11 to transmit the first symbol belonging to the sequence, col. 3, lines 60-col. 4, lines 24), and a starter (a starter must be included in order for the transmitter to start the transmission pattern from the beginning in the beginning of a frame, col. 3, lines 60-col. 4, lines 24).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alamouti et al. ("Alamouti") (USPN 6,185,258 B1).

Regarding claim 9, Alamouti does not teach that the length of the transmission pattern is larger than the length of the frame. However, it would have been an obvious matter of design choice to include that the length of the transmission pattern is larger than the length of the frame, since such a modification would have involved a mere change in the length of a component which involves only routine skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Claim 17 is a computer program product claim having functions corresponding to method claim 1 with an exception that Alamouti does not explicitly teach a computer usable medium having computer readable codes embodied therein for causing a computer to activate functions of a device (Transmitter 10 in Fig. 1, col. 3, lines 60-col. 4, lines 24). However, it would have been obvious to one skilled in the art at the time of the invention to include a computer usable medium having computer readable codes embodied therein for causing a computer to activate functions of a device, such as transmitter 10, into the computer program product as recited in the claim such that the computer readable codes can be portable and conveniently installed on other transmitters.

10. Claims 10, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alamouti et al. ("Alamouti") (USPN 6,185,258 B1) in view of an admitted prior art (the specification).

Regarding claim 10, Alamouti teaches that the transmission of the sequence of symbols is started from the primary antenna (antenna 11), see table 1 and col. 3, lines 62-col. 4, lines 24.

However, Alamouti does not teach that the primary antenna transmits a common pilot signal.

An admitted prior art teaches that when transmission diversity and two antennas (TX1 and TX2 in Fig. 3) are in use, antenna TX1 transmits a common pilot signal (CPICH 201, page 4, lines 19-21).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of Alamouti such that the primary antenna transmits a common pilot signal would be included as recited in the claim. The suggestion/motivation to do so would have been to enable one of the antennas to transmit the common pilot channel similarly as when no transmission diversity is employed as taught by the admitted prior art (page 4, lines 20-21).

Regarding claims 14 and 16, Alamouti teaches that the network element (transmitter 10 in Fig. 1 of Alamouti) is a radio network controller/a base station (a base station, col. 1 lines 56-62 and col. 3, lines 26-37 and 66-64). However, Alamouti does not teach a radio network controller/a base station of a spread spectrum system.

The admitted prior art teaches a radio network controller (a base station) of a spread spectrum system (WCDMA, page 1, lines 17-20, page 3, lines 4-8, and page 4, lines 19-21).

Given the teaching of the admitted prior art, it would have been obvious to one skilled in the art at the time the invention was made to include that the radio network controller is of a spread spectrum system as recited in the claim. The suggestion/motivation to do so would have been to enable the base station in the WCDMA network to provide transmission diversity using multiple antennas as taught by the admitted prior art (page 1, lines 18-20 and page 4, lines 19-21).

Response to Arguments

11. Applicant's arguments filed 6/16/2006 have been fully considered but they are not persuasive.

A. In the remarks regarding claims 1, 6-8, 12-13, and 15, applicant argues that the combined teaching of Alamouti and Petty are technically incompatible and the result is not the present invention since the recited features are missing.

In response, applicant's arguments with respect to claims 1, 6-8, 12-13, and 15 have been considered but are moot in view of the new ground(s) of rejection. Alamouti clearly teaches every limitation as claimed (see the rejection of claim 1).

B. In the remarks regarding claims 10, 14, and 16, applicant argues that the admitted prior art fails to disclose "the above feature" and that it makes no mention of the problem of using an incorrect channel coefficient, therefore, cannot be combined with the first two references, and even if it is somehow combined, the result is not the present invention.

In response, it is unclear what "the above feature" the applicant is referring to. Alamouti does not teach that the primary antenna transmits a common pilot signal as recited in claim 10, and a radio network controller/a base station of a spread spectrum system as recited in claims 14 and 16. However, an admitted prior art teaches that when transmission diversity and two antennas (TX1 and TX2 in Fig. 3) are in use, antenna TX1 transmits a common pilot signal (CPICH 201, page 4, lines 19-21), and a radio network controller (a base station) of a spread spectrum system (WCDMA, page 1, lines 17-20, page 3, lines 4-8, and page 4, lines 19-21). Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the teaching of Alamouti to include the primary antenna that would transmit a common

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pilot signal as recited in claim 10 and a radio network controller/a base station of a spread spectrum system as recited in claims 14 and 16. The suggestion/motivation to do so would have been to enable one of the antennas to transmit the common pilot channel similarly as when no transmission diversity is employed as taught by the admitted prior art (page 4, lines 20-21) and to enable the base station in the WCDMA network to provide transmission diversity using multiple antennas as taught by the admitted prior art (page 1, lines 18-20 and page 4, lines 19-21).

It is noted that the features upon which applicant relies (i.e., the problem of using an incorrect channel coefficient) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The applicant fails to point out specifically why the result of the combined teaching of Alamouti and the admitted prior art would not be the same as the present invention and an error in the motivation.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nittaya Juntima
August 24, 2006

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